CLAIMS:

1. A method of forming a non-volatile resistance variable device, comprising:

providing conductive electrode material over chalcogenide material having metal ions diffused therein;

forming an actinic energy blocking material layer on the conductive electrode material, the actinic energy blocking material layer being effective to shield actinic energy from reaching an interface of the conductive electrode material and the actinic energy blocking material to substantially preclude diffusion of the conductive electrode material into the chalcogenide material upon exposure to said actinic energy;

forming a dielectric layer on the actinic energy blocking material layer;

forming the conductive electrode material into a first electrode; and

providing a second electrode proximate the chalcogenide material having the metal diffused therein.

2. The method of claim 1 wherein the actinic energy blocking material layer is homogenous in composition.

3. The method of claim 1 wherein providing the conductive electrode material comprises depositing at least two individual layers.

4. The method of claim 1 wherein providing the conductive electrode material comprises depositing at least two individual layers of the same material.

5. The method of claim 1 wherein the metal ions comprise silver ions.

6. The method of claim 1 wherein the actinic energy blocking material is actinic energy reflective.

7. The method of claim 1 wherein the actinic energy blocking material is actinic energy absorptive.

8. The method of claim 1 wherein the actinic energy blocking material comprises amorphous silicon.

9. The method of claim 1 wherein the actinic energy blocking material comprises a silicon oxynitride.

10. The method of claim 1 wherein the actinic energy blocking material comprises silicon rich silicon nitride.

11. The method of claim 1 wherein the actinic energy blocking material comprises silicon rich silicon dioxide.

12. The method of claim 1 wherein the actinic energy blocking material comprises elemental tungsten.

13. The method of claim 1 wherein the actinic energy blocking material comprises tungsten nitride.

14. The method of claim 1 wherein the actinic energy blocking material is formed to a thickness no greater than 500 Angstroms.

15. The method of claim 1 wherein the chalcogenide material having metal ions diffused therein comprises Ge_xA_y, where A is selected from the group consisting of Se, Te and S, and mixtures thereof.

16. The method of claim 1 wherein the second electrode is formed before the first electrode.

17. The method of claim 1 wherein at least one of the first and second electrodes comprises elemental silver in contact with the chalcogenide material having metal ions diffused therein, and wherein the metal ions comprise silver ions.

18. The method of claim 1 comprising exposing the actinic energy blocking material layer to the actinic energy.

19. A method of forming a non-volatile resistance variable device, comprising:

providing conductive electrode material over chalcogenide material having metal ions diffused therein;

forming a conductive actinic energy blocking material layer on the conductive electrode material to a thickness of no greater than 500 Angstroms, the conductive actinic energy blocking material layer being effective to shield actinic energy from reaching an interface of the conductive electrode material and the actinic energy blocking material layer to substantially preclude diffusion of the conductive electrode material into the chalcogenide material upon exposure to said actinic energy;

patterning the conductive electrode material and the conductive actinic energy blocking material layer into a first electrode;

forming a dielectric layer on the first electrode; and

providing a second electrode proximate the chalcogenide material having the metal ions diffused therein.

20. The method of claim 19 wherein the conductive actinic energy blocking material layer is homogenous in composition.

21. The method of claim 19 wherein the conductive actinic energy blocking material is actinic energy reflective.

22. The method of claim 19 wherein at least one of the first and second electrodes comprises elemental silver in contact with the chalcogenide material having metal ions diffused therein, and wherein the metal ions comprise silver ions.

23. A method of forming a non-volatile resistance variable device, comprising:

providing conductive electrode material over chalcogenide material having metal ions diffused therein;

forming an insulative actinic energy blocking material layer on the conductive electrode material to a thickness of no greater than 500 Angstroms, the insulative actinic energy blocking material layer being effective to shield actinic energy from reaching an interface of the conductive electrode material and the actinic energy blocking material layer to substantially preclude diffusion of the conductive electrode material into the chalcogenide material upon exposure to said actinic energy;

patterning the conductive electrode material with the insulative actinic energy blocking material layer received thereover into a first electrode;

forming a dielectric layer on the insulative actinic energy blocking material layer received over the first electrode; and

providing a second electrode proximate the chalcogenide material having the metal ions diffused therein.

24. The method of claim 23 wherein the insulative actinic energy blocking material layer is homogenous in composition.

25. The method of claim 23 wherein the insulative actinic energy blocking material is actinic energy absorptive.

26. A method of forming a non-volatile resistance variable device, comprising:

forming a chalcogenide material over a substrate;

forming a metal over the chalcogenide material;

irradiating the metal effective to break a chalcogenide bond of the chalcogenide material at an interface of the metal and chalcogenide material and diffuse at least some of the metal into the chalcogenide material;

after the irradiating, forming conductive electrode material over the chalcogenide material having the metal diffused therein;

forming an actinic energy blocking material layer on the conductive electrode material, the actinic energy blocking material layer being effective to shield actinic energy from reaching the interface to substantially preclude diffusion of the metal into the chalcogenide material upon exposure to said actinic energy;

forming the conductive electrode material into a first electrode;

forming a dielectric layer on the actinic energy blocking material layer; and

providing a second electrode proximate the chalcogenide material having the metal diffused therein.

27. The method of claim 26 wherein the actinic energy blocking material layer is homogenous in composition.

28. The method of claim 26 wherein the actinic energy blocking material is actinic energy reflective.

29. The method of claim 26 wherein the actinic energy blocking material is actinic energy absorptive.

30. The method of claim 26 wherein the actinic energy blocking material comprises amorphous silicon.

31. The method of claim 26 wherein the actinic energy blocking material comprises a silicon oxynitride.

32. The method of claim 26 wherein the actinic energy blocking material comprises silicon rich silicon nitride.

33. The method of claim 26 wherein the actinic energy blocking material comprises silicon rich silicon dioxide.

34. The method of claim 26 wherein the actinic energy blocking material comprises elemental tungsten.

35. The method of claim 26 wherein the actinic energy blocking material comprises tungsten nitride.

36. The method of claim 26 wherein the actinic energy blocking material is formed to a thickness no greater than 500 Angstroms.

37. The method of claim 26 wherein the chalcogenide material having metal ions diffused therein comprises Ge_xA_y, where A is selected from the group consisting of Se, Te and S, and mixtures thereof.

38. The method of claim 26 wherein at least one of the first and second electrodes comprises elemental silver in contact with the chalcogenide material having metal ions diffused therein, and wherein the metal ions comprise silver ions.

39. The method of claim 26 comprising exposing the actinic energy blocking material layer to the actinic energy.

40. A method of precluding diffusion of a metal into adjacent chalcogenide material upon exposure to a quanta of actinic energy capable of causing diffusion of the metal into the chalcogenide material comprising forming an actinic energy blocking material layer over the metal to a thickness of no greater than 500 Angstroms and subsequently exposing the actinic energy blocking material layer to said quanta of actinic energy.

41. The method of claim 40 wherein the actinic energy blocking material is actinic energy reflective.

42. The method of claim 40 wherein the actinic energy blocking material is actinic energy absorptive.

43. The method of claim 40 wherein the actinic energy blocking material comprises amorphous silicon.

44. The method of claim 40 wherein the actinic energy blocking material comprises a silicon oxynitride.

45. The method of claim 40 wherein the actinic energy blocking material comprises silicon rich silicon nitride.

46. The method of claim 40 wherein the actinic energy blocking material comprises silicon rich silicon dioxide.

47. The method of claim 40 wherein the actinic energy blocking material comprises elemental tungsten.

48. The method of claim 40 wherein the actinic energy blocking material comprises tungsten nitride.

49. The method of claim 40 wherein the chalcogenide material comprises Ge_xA_y, where A is selected from the group consisting of Se, Te and S, and mixtures thereof.

50. The method of claim 40 wherein the actinic energy blocking material layer is homogenous in composition.

51. A method of precluding diffusion of a metal into adjacent chalcogenide material upon exposure to a quanta of actinic energy capable of causing diffusion of the metal into the chalcogenide material comprising forming an homogenous actinic energy blocking material layer over the metal and subsequently exposing the actinic energy blocking material layer to said quanta of actinic energy.

52. The method of claim 51 wherein the actinic energy blocking material is actinic energy reflective.

53. The method of claim 51 wherein the actinic energy blocking material is actinic energy absorptive.

54. The method of claim 51 wherein the actinic energy blocking material comprises amorphous silicon.

55. The method of claim 51 wherein the actinic energy blocking material comprises a silicon oxynitride.

56. The method of claim 51 wherein the actinic energy blocking material comprises silicon rich silicon nitride.

57. The method of claim 51 wherein the actinic energy blocking material comprises silicon rich silicon dioxide.

58. The method of claim 51 wherein the actinic energy blocking material comprises elemental tungsten.

59. The method of claim 51 wherein the actinic energy blocking material comprises tungsten nitride.

60. A non-volatile resistance variable device comprising:

a substrate having a first electrode formed thereover;

a resistance variable chalcogenide material having metal ions diffused therein received operatively adjacent the first electrode;

a second electrode received operatively adjacent the resistance variable chalcogenide material; and

an actinic energy blocking material layer received on the second electrode to a thickness of no greater than 500 Angstroms.

61. The device of claim 60 configured as a programmable memory cell.

62. The device of claim 60 wherein the actinic energy blocking material is actinic energy reflective.

63. The device of claim 60 wherein the actinic energy blocking material is actinic energy absorptive.

64. The device of claim 60 wherein the actinic energy blocking material is insulative.

65. The device of claim 60 wherein the actinic energy blocking material is conductive.

66. The device of claim 60 wherein the actinic energy blocking material is selected from the group consisting of amorphous silicon, silicon oxynitride, silicon rich silicon nitride, and silicon rich silicon dioxide, and mixtures thereof.

67. The device of claim 60 wherein the actinic energy blocking material is selected from the group consisting of tungsten and tungsten nitride, and silicon rich silicon dioxide, and mixtures thereof.

68. A non-volatile resistance variable device comprising:

a substrate having a first electrode formed thereover;

a resistance variable chalcogenide material having metal ions diffused therein received operatively adjacent the first electrode;

a second electrode received operatively adjacent the resistance variable chalcogenide material; and

a substantially homogenous actinic energy blocking material layer received on the second electrode.

69. The device of claim 68 configured as a programmable memory cell.

70. The method of claim 68 wherein the actinic energy blocking material is actinic energy reflective.

71. The method of claim 68 wherein the actinic energy blocking material is actinic energy absorptive.

72. The device of claim 68 wherein the actinic energy blocking material is insulative.

73. The device of claim 68 wherein the actinic energy blocking material is conductive.

74. The device of claim 68 wherein the actinic energy blocking material layer has a thickness no greater than 500 Angstroms.

75. The device of claim 68 wherein the actinic energy blocking material is selected from the group consisting of amorphous silicon, silicon oxynitride, silicon rich silicon nitride, and silicon rich silicon dioxide.

76. The device of claim 68 wherein the actinic energy blocking material is selected from the group consisting of tungsten and tungsten nitride.

77. A non-volatile resistance variable device comprising:

a substrate having a first electrode formed thereover;

a resistance variable chalcogenide material having metal ions diffused therein received operatively adjacent the first electrode;

a second electrode received operatively adjacent the resistance variable chalcogenide material; and

a first layer of material received on the second electrode to a thickness of no greater than 500 Angstroms, the material being selected from the group consisting of amorphous silicon, silicon oxynitride, silicon rich silicon nitride, silicon rich silicon dioxide, tungsten and tungsten nitride, and mixtures thereof.

78. The device of claim 77 configured as a programmable memory cell.

79. A non-volatile resistance variable device comprising:

a substrate having a first electrode formed thereover;

a resistance variable chalcogenide material having metal ions diffused therein received operatively adjacent the first electrode;

a second electrode received operatively adjacent the resistance variable chalcogenide material; and

a first homogeneous layer of material received on the second electrode, the material being selected from the group consisting of amorphous silicon, silicon oxynitride, silicon rich silicon nitride, silicon rich silicon dioxide, tungsten and tungsten nitride, and mixtures thereof.

80. The device of claim 79 configured as a programmable memory cell.